DRINKING WATER SURVEILLANCE PROGRAM

1996-1997

EXECUTIVE SUMMARY REPORT

Ontario

105-01609/

ISBN 0-7778-7615-9

DRINKING WATER SURVEILLANCE PROGRAM

1996-1997

EXECUTIVE SUMMARY REPORT

JUNE 1998

Cette publication technique
n'est disponible qu'en anglais.

Copyright: Queen's Printer for Ontario, 1998
This publication may be reproduced for non-commercial purposes
with appropriate attribution.

PIBS 3554E01

TABLE OF CONTENTS

INTRODUCTION 1

AJAX WATER TREATMENT PLANT 3

ALEXANDRIA WATER TREATMENT PLANT 4

ALVINSTON WATER TREATMENT PLANT 5

AMHERSTBURG WATER TREATMENT PLANT 6

ATIKOKAN WATER TREATMENT PLANT 7

BEARDMORE WATER TREATMENT PLANT 8

BEAVERTON WATER TREATMENT PLANT 9

BELLE RIVER WATER TREATMENT PLANT 10

BELLEVILLE WATER TREATMENT PLANT 11

BOURGET WELL SUPPLY 12

BOWMANVILLE WATER TREATMENT PLANT 14

BRACEBRIDGE WATER SUPPLY SYSTEM 15

BRANTFORD WATER TREATMENT PLANT 16

BROCKVILLE WATER TREATMENT PLANT 17

BURLINGTON WATER TREATMENT PLANT 18

CASSELMAN WATER TREATMENT PLANT 19

CHAPLEAU WATER TREATMENT PLANT 20

CHARLOTTENBURGH WATER TREATMENT PLANT 21

CHATHAM WATER TREATMENT PLANT 22

CLARENCE CREEK WELL SUPPLY 23

COBOURG WATER TREATMENT PLANT 24

COCHENOUR WATER TREATMENT PLANT 25

COLLINGWOOD WATER TREATMENT PLANT 26

CORNWALL WATER TREATMENT PLANT 27
DELHI WATER SUPPLY SYSTEM 28
DESERONTO WATER TREATMENT PLANT 29
DRESDEN WATER TREATMENT PLANT 30
DRYDEN WATER TREATMENT PLANT 31
DUNNVILLE WATER TREATMENT PLANT 32
EAR FALLS WATER TREATMENT PLANT 33
EMO WATER TREATMENT PLANT 34
ERIN WELL SUPPLY 35
FORT ERIE (ROSEHILL) WATER TREATMENT PLANT 36
FORT FRANCES WATER TREATMENT PLANT 37
GODERICH WATER TREATMENT PLANT 38
GRAVENHURST WATER TREATMENT PLANT 39
GRIMSBY WATER TREATMENT PLANT 40
HALDIMAND/NORFOLK WATER SUPPLY SYSTEM 41
HAMILTON WATER SUPPLY SYSTEM 42
HARROW-COLCHESTER WATER SUPPLY SYSTEM 43
HAWKESBURY WATER TREATMENT PLANT 44
HUNTSVILLE WATER TREATMENT PLANT 45
INGERSOLL WELL SUPPLY 46
KENORA WATER TREATMENT PLANT 48
KINGSTON WATER TREATMENT PLANT 49
KITCHENER (MANNHEIM) WATER TREATMENT PLANT 50
LINDSAY WATER TREATMENT PLANT 51
LONDON (LAKE HURON) WATER SUPPLY SYSTEM 52

MADSEN WATER TREATMENT PLANT 53
METRO TORONTO (F. J. HORGAN) WATER TREATMENT PLANT 55
METRO TORONTO (R. C. HARRIS) WATER TREATMENT PLANT 56
METRO TORONTO (R. L. CLARK) WATER TREATMENT PLANT 57
METRO TORONTO (TORONTO ISLAND) WATER TREATMENT PLANT 58
MIDLAND WELL SUPPLY 59
MITCHELL'S BAY WATER TREATMENT PLANT 60
NAPANEE WATER TREATMENT PLANT 61
NIAGARA FALLS WATER TREATMENT PLANT 62
NIPIGON WATER TREATMENT PLANT 63
NORTH BAY WATER TREATMENT PLANT 64
OAKVILLE WATER TREATMENT PLANT 65
ODESSA WATER TREATMENT PLANT 66
OHSWEKEN WATER TREATMENT PLANT 67
ORILLIA WATER SUPPLY SYSTEM 69
OSHAWA WATER SUPPLY SYSTEM 70
OTTAWA (BRITANNIA) WATER SUPPLY SYSTEM 71
OTTAWA (LEMIEUX ISLAND) WATER SUPPLY SYSTEM 72
OWEN SOUND WATER SUPPLY SYSTEM 73
PAISLEY WATER TREATMENT PLANT 74
PEMBROKE WATER TREATMENT PLANT 75
PENETANGUISHENE WELL SUPPLY 76
PERTH WATER TREATMENT PLANT 77
PETERBOROUGH WATER SUPPLY SYSTEM 78
PICTON WATER TREATMENT PLANT 79

PLANTAGENET WATER TREATMENT PLANT 80

PORT COLBORNE WATER TREATMENT PLANT 81

PORT DOVER WATER SUPPLY SYSTEM 82

PORT ELGIN WATER TREATMENT PLANT 83

PORT HOPE WATER TREATMENT PLANT 84

PORT ROWAN WATER TREATMENT PLANT 85

PORT STANLEY WATER TREATMENT PLANT 86

PRESCOTT WATER TREATMENT PLANT 87

RAINY RIVER WATER TREATMENT PLANT 88

RED LAKE WATER TREATMENT PLANT 89

RED ROCK WATER TREATMENT PLANT 90

RENFREW WATER TREATMENT PLANT 91

ROCKLAND WATER TREATMENT PLANT 92

SARNIA (LAMBTON AREA) WATER TREATMENT PLANT 93

SAULT STE. MARIE WATER SUPPLY SYSTEM 94

SMITHS FALLS WATER TREATMENT PLANT 95

SOUTHAMPTON WATER TREATMENT PLANT 96

SOUTH PEEL (LAKEVIEW) WATER SUPPLY SYSTEM 97

ST. CATHARINES (DE CEW) WATER SUPPLY SYSTEM 99

STONEY POINT (TILBURY NORTH) WATER SUPPLY SYSTEM 100

ST. PASCAL WELL SUPPLY 101

ST. THOMAS (ELGIN) WATER SUPPLY SYSTEM 103

SUDBURY (DAVID ST.) WATER TREATMENT PLANT 104

SUDBURY (WANAPITEI) WATER SUPPLY SYSTEM 105

TECUMSEH WATER TREATMENT PLANT 106

TERRACE BAY WATER TREATMENT PLANT 107

THUNDER BAY (BARE POINT) WATER TREATMENT PLANT 108

THUNDER BAY (LOCH LOMOND) WATER TREATMENT PLANT 109

TILBURY WATER TREATMENT PLANT 110

TRENTON WATER SUPPLY SYSTEM 112

UNION (ESSEX COUNTY) WATER SUPPLY SYSTEM 113

WALLACEBURG WATER TREATMENT PLANT 114

WALPOLE ISLAND WATER TREATMENT PLANT 115

WAWA WATER TREATMENT PLANT 116

WELLAND WATER SUPPLY SYSTEM 117

WHITBY WATER TREATMENT PLANT 118

WINDSOR WATER SUPPLY SYSTEM 119

INTRODUCTION

The Drinking Water Surveillance Program (DWSP) is a monitoring program developed to provide reliable and current information on drinking water. DWSP is not a compliance monitoring program, the operating authority for each municipal water supply is required to monitor the quality of the drinking water provided to the consumer and ensure its safety. Data collected by DWSP are used to monitor contaminant levels and trends, define and track the occurrence of new contaminants, provide data in support of standard setting and to assess treatment efficiency. DWSP began in 1986 at 22 water supply systems. Water supply systems are prioritized for inclusion in the program based on population exposure, geographical location, risk of contamination and available laboratory capacity.

111 water supply systems were monitored in 1996 and 126 were being monitored as of the end of 1997. The DWSP results for the monitoring period 1996-1997 show that the municipalities produced good quality water for their communities. Over 245,000 analytical tests including bacteriological, inorganic, organic and radiological were performed on treated drinking water. 49 test results exceeded a health-related Ontario Drinking Water Objective (ODWO).

The health-related ODWO for fluoride, turbidity, nitrates, lead, total trihalomethanes, N-nitrosodimethylamine (NDMA) and chromium were exceeded on a least one occasion at 21 locations in 1996 and 15 in 1997. No exceedance was persistent.

Fluoride is an additive added to municipal water during the treatment process to promote strong teeth. Fluoride can also be present in the source water as a result of erosion of natural deposits or discharge from fertilizer and aluminum factories.

Turbidity is present in the source water as a result of soil run off. Turbidity has no health effects, however turbidity can provide a medium for bacterial growth.

Nitrates are present in source water as a result of run off from

fertilizer use, leaching from septic tanks, sewage and erosion from natural deposits.

Lead can occur in source water as a result of erosion of natural deposits. The most common source of lead is as a result of corrosion of household plumbing.

Total trihalomethanes occur during the treatment process as a by-product of drinking water chlorination.

N-nitrosodimethylamine (NDMA) or its precursors may be present in the source water as a result of indusrial discharge. A particular blend of coagulant and polymer is suspected to have formed NDMA in the treatment process.

Chromium may be present in the source water as a result of erosion of natural deposits or discharge from steel and pulp mills.

The executive summaries for 111 Water Supply Systems are presented in this document. Copies of the detailed reports are available through the individual operating authority or by contacting the Public Information Center of the Ministry of Environment at (416)325-4000.

.....2

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
AJAX WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Ajax Water Treatment Plant, operated by the Regional Municipality of Durham, is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, disinfection and fluoridation. This plant has a design capacity of 55 x 1000 m^3/day. The Ajax Water Treatment Plant serves a population of approximately 105,500.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

A summary of supplementary radiological data, provided by the Ontario Ministry of Labour, Radiation Protection Laboratory, is presented in this report.

For 1996 and 1997, a total of 1585 tests were performed in 5 sample events from the Ajax Water Treatment Plant.

No known health related guidelines were exceeded.

The Ajax Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

.....3

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
ALEXANDRIA WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Alexandria Water Treatment Plant is a conventional treatment plant which treats water from Mill Lake, part of the Gary Lake system, east of Ottawa. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. Powder activated carbon is added for taste and odour control. This plant has a design capacity of 8.1 x 1000 m^3/day. The Alexandria Water Treatment Plant serves a population of approximately 3,600.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,122 tests were performed in 6 sample events from the Alexandria Water Treatment Plant.

No known health related guidelines were exceeded.

The persistent finding of aluminum levels above the Ontario Drinking Water Objective operational guideline of 100 µg/L in the treated and distributed water would indicate that the treatment process be optimized.

The Alexandria Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

.....4

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
ALVINSTON WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Alvinston Water Treatment Plant is a conventional treatment plant which treats water from the Sydenham River. The Sydenham River drains a predominantly agricultural watershed into Lake St. Clair in the southwest region of the province. The treatment process consists of coagulation, flocculation, clarification (upflow solids contact clarifier), filtration, post pH adjustment and disinfection. Powder activated carbon is added for taste and odour control. This plant has a design capacity of 0.755 x 1000 m^3/day. The Alvinston Water Treatment Plant serves a population of approximately 700.

Raw and treated water at the plant and water at two locations in the distribution system was sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 4,751 tests were performed on water from the Alvinston Water Treatment Plant in 10 sampling events and a N-Nitrosodimethylamine survey conducted in the winter of 1996.

Total nitrate levels were found above the Ontario Drinking Water Objective of 10.0 mg/L in a treated and distributed water sample. The MOE District Officer was notified.

No other health related guidelines were exceeded.

The detection of positive levels of atrazine, metolachlor and traces of other pesticides at the Alvinston Water Treatment Plant indicates that the raw water source is influenced by agricultural activity. These results are similar to those found in previous years.

The Alvinston Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

.....5

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
AMHERSTBURG WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Amherstburg Water Treatment Plant is a conventional treatment plant which treats water from the Detroit River. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. Powder activated carbon is added for taste and odour control. This plant has a rated capacity of 9.0 x 1000 m^3/day. The Amherstburg Water Treatment Plant serves a population of approximately 16,000.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,426 tests were performed in 6 sample events from the Amherstburg Water Treatment Plant.

No known health related guidelines were exceeded.

The Amherstburg Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

.....6

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
ATIKOKAN WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Atikokan Water Treatment Plant is a conventional treatment plant which treats water from the Atikokan River. The process consists of coagulation, flocculation, sedimentation, filtration, pH adjustment, fluoridation and disinfection. A plant upgrade, which included the addition of settling tanks, was completed in 1995. Ozone addition was discontinued in the summer of 1996. This plant has a design capacity of 6.0 x 1000 m^3/day. The Atikokan Water Treatment Plant serves a population of approximately 4,000.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,709 tests were performed in 8 sample events from the Atikokan Water Treatment Plant.

Fluoride exceeded the Ontario Drinking Water Objective of 1.5 mg/L 3 times, twice in the treated water and once in the distributed water. The MOE District Officer was notified. The treatment process for fluoride addition should be reviewed.

No other health related guidelines were exceeded.

The Atikokan Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

.....7

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
BEARDMORE WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Beardmore Water Treatment Plant is a package plant which uses conventional treatment and treats water from the Blackwater River. The process consists of coagulation, flocculation, sedimentation with the aid of tube settlers, filtration, alkalinity adjustment, corrosion control and disinfection. This plant has a design capacity of 1.3 x 1000 m^3/day. The Beardmore Water Treatment Plant serves a population of approximately 500.

Raw and treated water at the plant and at one location in the distribution system was sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,400 tests were performed in 7 sample events from the Beardmore Water Treatment Plant.

No known health related guidelines were exceeded.

The Beardmore Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

.....8

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
BEAVERTON WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Beaverton Water Treatment Plant, operated by the Regional Municipality of Durham, is a direct filtration plant which treats water from Lake Simcoe. The process consists of coagulation, flocculation, filtration, and disinfection. This plant has a rated capacity of 7.3 x 1000 m^3/day. The Beaverton Water Treatment Plant serves a population of approximately 3,300.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,757 tests were performed in 5 sample events from the Beaverton Water Treatment Plant.

No known health related guidelines were exceeded.

The Beaverton Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
BELLE RIVER WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Belle River Water Treatment Plant is a conventional treatment plant which treats water from Lake St. Clair. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, and disinfection. Powder activated carbon is added for taste and odour control when required. This plant has a design capacity of 18.0 x 1000 m^3/day. The Belle River Water Treatment Plant serves a population of approximately 13,000.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,273 tests were performed in 6 sample events from the Belle River Water Treatment Plant.

No known health related guidelines were exceeded.

The Belle River Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

.....10

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
BELLEVILLE WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Belleville Water Treatment Plant is a conventional treatment plant which treats water from the Bay of Quinte, in eastern Lake Ontario. The process consists of microstrainers, coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. This plant has a rated capacity of 54.6 x 1000 m^3/day. The Belleville Water Treatment Plant serves a population of approximately 36,800.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,768 tests were performed on water from the Belleville Water Treatment Plant taken in 5 sample events and a N-Nitrosodimethylamine (NDMA) survey conducted in the winter of 1996.

The average Total Trihalomethane (THM) concentration of 103.0 ug/L detected in the Belleville distribution indicates that the June 1996 revised Ontario Drinking Water Objective of 100 µg/L (based on a running average of 4 quarterly samples) may be exceeded.

No other health related guidelines were exceeded.

The Belleville Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
BOURGET WELL SUPPLY
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The community of Bourget is located in Clarence Township, east of the City of Ottawa, in an agricultural area of the Ottawa valley and uses ground water as its source of drinking water.

The DWSP was initiated at the Bourget well supply in January 1996 in response to a concern about the drinking water quality.

The Bourget well supply consists of three springs (designated as the East, the North and the West spring wells) which flow into infiltration galleries, and two deep wells called the old Bourget well and the MOE well. The main production well is the MOE well which yields highly coloured water, has elevated levels of organic carbon and is of poor aesthetic quality. The volume of the springs and infiltration system decreases during the summer as the water table lowers. The water from the various sources is collected, mixed in a reservoir and disinfected with chlorine. The treated water is then pumped into the distribution. The maximum pumping capacity of the system is 3.5 x 1000 m^3/day. The Bourget well supply serves a population of approximately 1,000.

Raw water from the East, the North and the West spring well infiltration systems, the old Bourget well, the MOE well, mixed treated water from the reservoir and treated water at one location in the distribution system were sampled and analysed for up to 200 parameters.

For 1996 and 1997, a total of 3,696 tests were performed in 21 sample events from the Bourget well supply.

The average Total Trihalomethane concentration of 313.0 ug/L detected in the Bourget distribution in 1997 exceeded the Ontario Drinking Water Objective (ODWO) of 100 µg/L (based on a running average of quarterly samples). The MOE District Office is aware of the exceedance.

Turbidity was detected above the ODWO Maximum Acceptable

.....12

Concentration of 1.0 FTU in 12 treated water samples. The municipality is advised to review the results of bacteriological sampling in the treated and distributed water to ensure that they are within acceptable limits.

No other known health related guidelines were exceeded.

The Water and Waste Water Optimization section of the MOE together with the local municipality are introducing operating measures that may result in THM levels below the new ODWO limit.

The raw water source for the Bourget well supply is of poor quality and this was reflected in the results for the sample years of 1996 and 1997.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
BOWMANVILLE WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Bowmanville Water Treatment Plant, operated by the Regional Municipality of Durham, is a direct filtration plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, filtration and disinfection. This plant has a design capacity of 36.4 x 1000 m^3/day. The Bowmanville Water Treatment Plant serves a population of approximately 21,500.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

A summary of supplementary radiological data, provided by the Ontario Ministry of Labour, Radiation Protection Laboratory, is presented in this report.

For 1996 and 1997, a total of 1,068 tests were performed in 3 sample events from the Bowmanville Water Treatment Plant.

No known health related guidelines were exceeded.

The Bowmanville Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

.....14

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
BRACEBRIDGE WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Bracebridge (Kirby Beach) Water Treatment Plant, commissioned in 1995 and operated by the District of Muskoka, is a conventional treatment plant (with the capability of utilising enhanced coagulation) which treats water from Lake Muskoka. The process consists of pretreatment tanks for chemical addition, coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Powder activated carbon can be added for taste and odour control and both pre- and post- alkalinity adjustment are used. Carbon dioxide gas is added to stabilize the pH. The Bracebridge (Kirby Beach) Water Treatment Plant has a design capacity of 59.0 x 1000 m^3/day and serves a population of approximately 7,000.

Raw and treated water at the plant and treated water at three locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,898 tests were performed in 5 sample events from the Bracebridge (Kirby Beach) Water Treatment Plant.

No known health related guidelines were exceeded.

The Bracebridge (Kirby Beach) Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
BRANTFORD WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Brantford Water Treatment Plant is a conventional treatment plant which treats water from the Grand River via the Homedale Canal. The Grand River drains a predominantly agricultural watershed which flows into Lake Erie. The treatment process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Ammonia is added to the disinfection process to convert the free chlorine into a combined (chloramine) residual. Sulphur dioxide is used to dechlorinate. Powder activated carbon is added for taste and odour control when required. This plant has a rated capacity of 104 x 1000 m^3/day. The Brantford Water Treatment Plant serves a population of approximately 75,000.

Raw and treated water at the plant and treated water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters. A special survey of N-nitrosodimethylamine (NDMA) was conducted during the winters of 1996 and 1997

For 1996 and 1997, a total of 5,424 tests were performed in 10 sample events and the NDMA survey from the Brantford Water Treatment Plant.

The Ontario Drinking Water Objective for NDMA (0.009 µg/L) was exceeded in 1 treated water sample. The MOE District Officer was notified.

No other known health related guidelines were exceeded.

The Brantford Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
BROCKVILLE WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Brockville Water Treatment Plant is a direct filtration plant which treats water from the St. Lawrence River. The process consists of coagulation, flocculation, filtration, fluoridation and disinfection. This plant has a design capacity of 40.7 x 1000 m^3/day. The Brockville Water Treatment Plant serves a population of approximately 21,200.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,247 tests were performed in 6 sample events from the Brockville Water Treatment Plant.

The Ontario Drinking Water Objective (ODWO) for Lead (10 µg/L) was exceeded in 1 treated water sample. The MOE District Officer was notified. Subsequent samples had lead levels well below the ODWO. Inadequate flushing of the standing water from the lines prior to sampling may have contributed to the elevated lead level.

No other known health related guidelines were exceeded.

The Brockville Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
BURLINGTON WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Burlington Water Treatment Plant, operated by the Regional Municipality of Halton, is a direct filtration plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra control when the raw water temperature rises above 12°C. This plant has a design capacity of 181.6 x 1000 m^3/day. The Burlington Water Treatment Plant serves a population of approximately 130,000.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,133 tests were performed in 3 sample events from the Burlington Water Treatment Plant.

No known health related guidelines were exceeded.

The Burlington Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
CASSELMAN WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Casselman Water Treatment Plant is a conventional treatment plant which treats water from the South Nation River. The South Nation River drains a predominantly agricultural watershed to the east of Ottawa. The treatment process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, pH adjustment and disinfection. Powder activated carbon is added for taste and odour control. This plant has a rated capacity of 0.69 x 1000 m^3/day. The Casselman Water Treatment Plant serves a population of approximately 2,200.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 6,001 tests were performed on water from the Casselman Water Treatment Plant from 11 sample events and a N-Nitrosodimethylamine survey conducted during the winters of 1996 and 1997.

No known health related guidelines were exceeded.

The presence of atrazine and other pesticides at the Casselman Water Treatment Plant indicates that this raw water source is influenced by agricultural activity. The results were similar to those reported in previous years.

The Casselman Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
CHAPLEAU WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Chapleau Water Treatment Plant is a conventional treatment plant which treats water from the Chapleau River. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, pH adjustment and disinfection. Ammonia is used in the disinfection process to convert free chlorine to a combined (chloramine) residual. This plant has a design capacity of 5.4 x 1000 m^3/day. The Chapleau Water Treatment Plant serves a population of approximately 2,500.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,747 tests were performed in 6 sample events from the Chapleau Water Treatment Plant.

No known health related guidelines were exceeded.

The Chapleau Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water. Water quality showed slight deterioration in the distribution system as evidenced by the high colour values.

.....20

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
CHARLOTTENBURGH WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Charlottenburgh Water Treatment Plant is a conventional treatment plant which treats water from the St. Lawrence River. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection and also includes filtration through granular activated carbon (GAC) contactors. This plant has a rated capacity of 0.995 x 1000 m^3/day. The Charlottenburgh Water Treatment Plant serves a population of approximately 500.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,230 tests were performed in 6 sample events from the Charlottenburgh Water Treatment Plant.

The Ontario Drinking Water Objective for Lead (10 µg/L) was exceeded in 1 distributed water sample. The MOE District Officer was notified. A resample showed the lead level to be well below the guideline. Inadequate flushing of the standing water in the pipe prior to sampling may have contributed to the elevated lead level.

No other known health related guidelines were exceeded.

The Charlottenburgh Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
CHATHAM WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Chatham Water Treatment Plant is a conventional treatment plant which treats water from Lake Erie. Raw water is chlorinated at the lowlift pumping station, located at the lakeshore, and is then pumped 9 kilometres to the Water Treatment Plant in Chatham. The plant process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. This plant has a design capacity of 91.0 x 1000 m^3/day. The Chatham Water Treatment Plant serves a population of approximately 42,000.

Chlorinated raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,623 tests were performed in 4 sample events from the Chatham Water Treatment Plant.

No known health related guidelines were exceeded.

The Chatham Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
CLARENCE CREEK WELL SUPPLY
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities. The DWSP was initiated at the Clarence Creek well supply in January 1996 in response to a concern about the water quality.

The community of Clarence Creek is located in Clarence Township, in an agricultural area of the Ottawa valley and uses groundwater as its source of drinking water. The Clarence Creek well supply consists of one well (well 2) on the north side of the town and a network of 3 wells (wells 1, 3 and 4) on the south side of town. Well 2, the main production well, has highly coloured water, elevated levels of organic carbon and poor aesthetic quality. Raw water from this well is pumped through a small on-site conventional package plant with no chemical treatment provided. A media filter provides physical treatment before final disinfection. The treated water from well 2 is then fed to the distribution and the water tower. The well network is chlorinated for disinfection. This network of wells supplements the supply in the summer. The maximum pumping capacity of the system is 4.0 x 1000 m^3/day. The Clarence Creek well supply serves a population of approximately 1,000.

Raw and treated water from wells 2, the well network 1,3,4, and at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 5,975 tests were performed in 22 sample events at the Clarence Creek well supply.

Turbidity was detected above the Ontario Drinking Water Objective of 1.0 FTU in 11 treated water samples. It is advisable that the municipality review the results of the bacteriological survey conducted on the treated and distributed water to ensure that they are within acceptable limits.

No other known health related guidelines were exceeded.

The Clarence Creek well supply, for the sample years of 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
COBOURG WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Cobourg Water Treatment Plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, and disinfection. This plant has a design capacity of 36.3 x 1000 m^3/day. The Cobourg Water Treatment Plant serves a population of approximately 15,000.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,735 tests were performed in 5 sample events from the Cobourg Water Treatment Plant.

No known health related guidelines were exceeded.

The Cobourg Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

.....24

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
COCHENOUR WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The community of Cochenour is located in the Red Lake area of Northern Ontario. The Cochenour Water Treatment Plant is a pumping station which pumps water from the Bruce Channel in Red Lake. The only treatment provided is disinfection. The plant consists of a five chamber storage reservoir and four highlift pumps. Chlorine is added to the first chamber of the clear well for disinfection, treated water is pumped to the distribution. The plant has a design capacity of 1.06 x 1000 m^3/day. The Cochenour Water Treatment Plant serves a population of approximately 530.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,778 tests were performed in 5 sample events from the Cochenour Water Treatment Plant.

Turbidity exceeded the Ontario Drinking Water Objective (ODWO) of 1.0 FTU in 1 treated water sample. The MOE District Officer was notified. Turbidity can interfere with the disinfection process, it is advisable that the results of the bacteriological survey be reviewed to ensure that they are within acceptable limits.

The average Total Trihalomethane concentration of 202 µg/L in the distribution exceeded the ODWO of 100 µg/L (based on a running average of four quarterly samples).

No other health related guidelines were exceeded.

The elevated levels of organic carbon, colour, turbidity and the resulting high trihalomethanes in the treated water are due to the lack of physical-chemical treatment at this facility.

The Cochenour Water Treatment Plant, for the sample years 1996 and 1997, produced adequate quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
COLLINGWOOD WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Collingwood Water Treatment Plant is a surface water plant which draws water from Georgian Bay. The sole treatment process was the addition of chlorine for disinfection. The design capacity of the pumps is 45.0 x 1000 m^3/day. Collingwood Water Treatment Plant serves a population of approximately 12,000.

After an outbreak of Cryptosporidiosis in March 1996, a temporary membrane filtration system was installed and became operational in August 1996. A permanent treatment facility is under construction.

Raw and treated water at the plant and at three locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 3,038 tests were performed in 8 sample events from the Collingwood Water Treatment Plant.

Turbidity exceeded the Ontario Drinking Water Objective of 1 FTU in 1 treated water sample. The MOE District Officer was notified.

No other known health related guidelines were exceeded.

This report contains the water quality data for Collingwood for 1996 and 1997. This includes the period in March 1996 when there was a reported outbreak of Cryptosporidiosis which was attributed to the municipal water supply. The local Medical Officer of Health issued a boil water order which remained in effect until the temporary treatment facility started operation.

The Collingwood Water Treatment Plant, for the sample period from August 1996 and the sample year 1997, produced good quality water and this was maintained in the distribution system.

.....26

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
CORNWALL WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Cornwall Water Treatment Plant is a conventional treatment plant which treats water from the St. Lawrence River. The process consists of coagulation, flocculation, sedimentation, filtration, disinfection and fluoridation. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. This plant has a design capacity of 100 x 1000 m^3/day. The Cornwall Water Treatment Plant serves a population of approximately 46,000.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,768 tests were performed in 5 sample events from the Cornwall Water Treatment Plant.

No known health related guidelines were exceeded.

The Cornwall Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
DELHI WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Delhi Water Supply System, operated by the Regional Municipality of Haldimand-Norfolk, has two water sources: North Creek/Lehman Dam and a groundwater well. The water treatment plant treats the surface water using conventional treatment consisting of coagulation, flocculation, sedimentation, filtration with pressure filters, fluoridation and disinfection. This plant has a rated capacity of 4.54 x 1000 m^3/day. One deep well, located 5 kilometres east of the town, is disinfected, fluoridated and pumped directly into the distribution system. The well supplies about 25% of the total demand of the system and has a maximum pumping capacity of 0.84 x 1000 m^3/day. Treated water from the plant and the well mix in the distribution. The Delhi Water Supply System serves a population of approximately 4,100.

Raw and treated water at the plant and the well and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,616 tests were performed in 10 sample events from the Delhi Water Treatment Plant and 3 sample events from the Delhi Well Supply.

The Ontario Drinking Water Objective (ODWO) for fluoride (1.5 mg/L) was exceeded in 2 distribution water samples. The MOE District Officer was notified. The treatment process for fluoride addition should be reviewed.

No other known health related guidelines were exceeded.

The persistent finding of aluminum levels above the ODWO operational guideline of 100 ug/L in the plant treated water would indicate that the treatment process should be optimized.

The Delhi Water Treatment Plant and Well Supply, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system

.....28

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
DESERONTO WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Deseronto Water Treatment Plant is a conventional treatment plant which treats water from the Bay of Quinte, in eastern Lake Ontario. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, pH control and disinfection. Granular activated carbon (GAC) contactors are used for taste and odour control. This plant has a rated capacity of 2.9 x 1000 m^3/day. The Deseronto Water Treatment Plant serves a population of approximately 2,300.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,827 tests were performed in 5 sample events from the Deseronto Water Treatment Plant.

No known health related guidelines were exceeded.

The Deseronto Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
DRESDEN WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Dresden Water Treatment Plant treats water from the Sydenham River. The Sydenham River, which flows into Lake St Clair, drains a predominantly agricultural watershed in the southwest region of Ontario. The conventional treatment process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, and disinfection. Powder activated carbon is applied for taste and odour control and pesticide reduction. This plant has a rated capacity of 2.3 x 1000 m^3/day. The Dresden Water Treatment Plant serves a population of approximately 2,500.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

A total of 5,852 tests were performed in 11 sample events and a N-Nitrosodimethylamine (NDMA) survey conducted during the winters of 1996 and 1997 from the Dresden Water Treatment Plant.

The Ontario Drinking Water Objective for NDMA (0.009 µg/L) was exceeded in 2 treated water samples. The MOE District Officer was notified.

No other known health related guidelines were exceeded.

Detection of 2,4-D and other pesticides at positive and trace levels at the Dresden Water Treatment Plant indicates that the raw water source is influenced by agricultural activity. The results are similar to those reported in previous years.

The Dresden Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

The Dresden Water Treatment Plant was taken out of service in November 1997. The community is now served by the Chatham area water supply.

.....30

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
DRYDEN WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Dryden Water Treatment Plant is a conventional treatment plant which treats water from Lake Wabigoon. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, pH adjustment, fluoridation and disinfection. This plant has a design capacity of 7.8 x 1000 m^3/day. The Dryden Water Treatment Plant serves a population of approximately 6,500.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,202 tests were performed in 6 sample events from the Dryden Water Treatment Plant.

No known health related guidelines were exceeded.

The Dryden Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
DUNNVILLE WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Dunnville industrial lowlift pumping station, operated by the Regional Municipality of Haldimand-Norfolk, is situated on the shore of Lake Erie at the mouth of the Grand River. Raw water from Lake Erie is pumped through microstrainers, disinfected and delivered to industries in Port Maitland and the Dunnville Water Treatment Plant. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. This pumping station has a design capacity of 26.4 x 1000 m^3/day.

The Dunnville Water Treatment Plant is a conventional treatment plant which treats the chlorinated water pumped 7 Km from the Dunnville industrial lowlift pumping station to the town of Dunnville. The treatment process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. This plant has a design capacity of 14.5 x 1000 m^3/day. The Dunnville Water Treatment Plant serves a population of approximately 11,300.

Chlorinated raw water entering the plant, treated water and one location in the distribution were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,107 tests were performed in 3 sample events from the Dunnville Water Treatment Plant.

No known health related guidelines were exceeded.

The Dunnville Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
EAR FALLS WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Ear Falls Water Treatment Plant is a conventional treatment plant which treats water from the English River. The process consists of coagulation, flocculation, clarification (upflow clarifiers), filtration, pH adjustment, fluoridation and disinfection. This plant has a design capacity of 2.727 x 1000 m^3/day. The Ear Falls Water Treatment Plant serves a population of approximately 1,500.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,315 tests were performed in 7 sample events from the Ear Falls Water Treatment Plant.

The Ontario Drinking Water Objective for lead (10 µg/L) was exceeded in 1 treated water sample. The MOE District Officer was notified. Inadequate flushing of the standing water in the pipes may have contributed to the elevated lead level.

No other health related guidelines were exceeded.

In July 1996 the plant experienced a process problem with alkalinity and pH control. The operation of the treatment process was much improved in 1997.

The Ear Falls Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
EMO WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997 the DWSP monitored 142 water treatment facilities.

The Emo Water Treatment Plant is a Degremont package plant which treats water from Rainy River. The process consists of coagulation, flocculation, sedimentation, filtration, pH adjustment and disinfection. This plant has a design capacity of 0.83 x 1000 m^3/day. The Emo Water Treatment Plant serves a population of approximately 900.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,740 tests were performed in 8 sample events from the Emo Water Treatment Plant.

No known health related guidelines were exceeded.

The persistent finding of aluminum levels above the Ontario Drinking Water Objective operational guideline of 100 µg/L in the treated and distributed water suggests that the treatment process should be optimized. The detection of specific organic compounds at trace levels in many raw water samples is consistent with results reported in previous years and may be an indicator of pulp mill discharges.

The Emo Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
ERIN WELL SUPPLY
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Erin Well Supply is a ground water source consisting of two wells approximately three kilometres apart. Water from each well is pumped into a separate reservoir where the water is disinfected with chlorine, water is then pumped into the distribution and the water tower. The maximum pumping capacity is 2.40 x 1,000 m^3/day. The Erin Well Supply serves a population of 2,500

Raw and treated water from the two wells, 7 and 8, and water at one location in the distribution were sampled for the presence of approximately 200 bacteriological, inorganic, and organic parameters.

For 1996 and 1997, a total of 1,184 tests were performed in 3 sample events at the Erin Well Supply.

No known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines as prescribed in the Ontario Drinking Water Objectives is characteristic of many ground water supplies.

The Erin Well Supply, for the sample years of 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
FORT ERIE (ROSEHILL) WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Fort Erie (Rosehill) Water Treatment Plant, operated by the Regional Municipality of Niagara, is a conventional treatment plant which treats water from Lake Erie. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. Powder activated carbon is added for taste and odour control when required. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. This plant has a rated capacity of 50.0 x 1000 m^3/day. The Fort Erie (Rosehill) Water Treatment Plant serves a population of approximately 21,700.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,149 tests were performed in 3 sample events from the Fort Erie (Rosehill) Water Treatment Plant.

No known health related guidelines were exceeded.

The Fort Erie (Rosehill) Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water. The elevated colour and iron levels, detected in the flowing samples at one location in the distribution, may be indicative of deterioration in the system.

.....36

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
FORT FRANCES WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Fort Frances Water Treatment Plant is a conventional treatment plant which treats water from the Rainy River. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, pH adjustment, fluoridation and disinfection. This plant has a design capacity of 16.9 x 1000 m^3/day. The Fort Frances Water Treatment Plant serves a population of approximately 9,000.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,424 tests were performed in 7 sample events from the Fort Frances Water Treatment Plant.

No known health related guidelines were exceeded.

The Fort Frances Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
GODERICH WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Goderich Water Treatment Plant is a conventional treatment plant which treats water from Lake Huron. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. Powder activated carbon is added for taste and odour control as required. This plant has a rated capacity of 12.0 x 1000 m^3/day. The Goderich Water Treatment Plant serves a population of approximately 7,500.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,788 tests were performed in 5 sample events from the Goderich Water Treatment Plant.

No known health related guidelines were exceeded.

The Goderich Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
GRAVENHURST WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Gravenhurst Water Treatment Plant, operated by the District of Muskoka, is a direct filtration plant which treats water from Lake Muskoka. The process consists of coagulation, flocculation, filtration, both pre and post pH adjustment and disinfection. This plant has a rated capacity of 15.0 x 1000 m^3/day. The Gravenhurst Water Treatment Plant serves a population of approximately 8,000.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,694 tests were performed in 5 sample events from the Gravenhurst Water Treatment Plant.

No known health related guidelines were exceeded.

The persistent finding of aluminum levels above the Ontario Drinking Water Objective operational guideline of 100 µg/L in the treated and distributed water suggest that the treatment process should be optimized.

The Gravenhurst Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
GRIMSBY WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Grimsby Water Treatment Plant, operated by the Regional Municipality of Niagara, takes water from Lake Ontario. The treatment process consists of pretreatment tanks for chemical addition followed by conventional treatment including coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Powder activated carbon is added for taste and odour control as required. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. This plant has a rated capacity of 41.0 x 1000 m^3/day. The Grimsby Water Treatment Plant serves a population of approximately 18,000 in Grimsby and 5,000 in Beamsville.

Raw and treated water at the plant and treated water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,580 tests were performed in 4 sample events from the Grimsby Water Treatment Plant.

No known health related guidelines were exceeded.

The Grimsby Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
HALDIMAND/NORFOLK WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Haldimand/Norfolk Water Supply System has a conventional treatment plant which treats water from Lake Erie. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. This plant has a rated capacity of 4.2 x 1000 m^3/day. The Haldimand/Norfolk water supply system serves a population of approximately 4,000 in the communities of Nanticoke and Townsend.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,382 tests were performed in 4 sample events from the Haldimand/Norfolk Water Treatment Plant.

No known health related guidelines were exceeded.

The Haldimand/Norfolk water supply system, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
HAMILTON WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Hamilton Water Supply System has a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Ammonia is used in the disinfection process to convert free chlorine to a combined chlorine residual (chloramine). Sulphur dioxide is used for dechlorination. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. This plant has a design capacity of 909 x 1000 m^3/day. The Hamilton water supply system serves a population of approximately 411,500.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,087 tests were performed in 3 sample events from the Hamilton Water Treatment Plant.

No known health related guidelines were exceeded.

The Hamilton Water Supply System, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
HARROW-COLCHESTER WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Harrow-Colchester Water Treatment Plant is a conventional treatment plant which treats water from Lake Erie. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, taste and odour control and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. This plant has a rated capacity of 10.2 x 1000 m^3/day. The Harrow-Colchester water supply system serves a population of approximately 5,900.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,515 tests were performed in 4 sample events from the Harrow-Colchester Water Treatment Plant.

No known health related guidelines were exceeded.

The Harrow-Colchester water supply system, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
HAWKESBURY WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Hawkesbury Water Treatment Plant is a conventional treatment plant which treats water from the Ottawa River. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, pH adjustment, fluoridation and disinfection. This plant has a rated capacity of 12.3 x 1000 m^3/day. The Hawkesbury Water Treatment Plant serves a population of approximately 9,700.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,577 tests were performed in 7 sample events from the Hawkesbury Water Treatment Plant.

No known health related guidelines were exceeded.

The Hawkesbury Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
HUNTSVILLE WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Huntsville Water Treatment Plant, operated by the District Municipality of Muskoka, is a conventional treatment plant which treats water from Fairy Lake. The treatment process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Sodium carbonate is used for alkalinity and pH adjustment. This plant has a rated capacity of 9.0 x 1000 m^3/day. The Huntsville Water Treatment Plant serves a population of approximately 6,000.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,843 tests were performed in 5 sample events from the Huntsville Water Treatment Plant.

No known health related guidelines were exceeded.

The Huntsville Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
INGERSOLL WELL SUPPLY
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Ingersoll Well Supply is a groundwater source which consists of 7 bedrock wells drilled into the limestone strata that underlies the area. At each well, water is pumped through an aeration tower to remove hydrogen sulphide and then flows into separate reservoirs to allow sufficient contact time for the chlorine disinfection. Highlift pumps then pump the treated water into the distribution system and water tower. The maximum pumping capacity of the system is 25.000 x 1000 m^3/day. The Ingersoll Well Supply serves a population of approximately 10,000.

Raw and treated water from wells 2, 3, 5, 7, 8, 10, 11 and water from two locations in the distribution were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 3,152 tests were performed in 4 sample events from the Ingersoll Well Supply.

The Ontario Drinking Water Objective (ODWO) for fluoride (1.5 mg/L) was exceeded in 15 treated and distributed water samples. The fluoride is naturally occurring. The MOE District Officer was notified.

Turbidity was detected above the ODWO of 1.0 FTU in 10 treated water samples. The MOE District Officer was notified. It is advisable that the results of the bacteriological survey be reviewed to ensure that they are within acceptable limits.

The ODWO for lead (10 µg/L) was exceeded in 1 treated water sample. The MOE District Officer was notified. Inadequate flushing of the standing water from the pipes may have contributed to the elevated lead level. Subsequent samples showed the lead level to be well below the guideline.

No other known health related guidelines were exceeded.

.....46

The numerous minerals and salts detected above aesthetic guidelines prescribed in the ODWOs is characteristic of many groundwater sources.

The aeration process, used for the removal of hydrogen sulphide gas, significantly reduces the levels of volatile organic contaminants in the raw water.

The Ingersoll Well Supply, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
KENORA WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Kenora Water Treatment Plant is a conventional treatment plant which treats water from Lake of the Woods. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, fluoridation, pH adjustment and disinfection. This plant has a rated capacity of 22.0 x 1000 m^3/day. The Kenora Water Treatment Plant serves a population of approximately 16,000.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,825 tests were performed in 5 sample events from the Kenora Water Treatment Plant.

The Ontario Drinking Water Objective for lead (10 µg/L) was exceeded in 1 treated water sample. The MOE District Officer was notified. Inadequate flushing of the standing water from the pipes may have contributed to the elevated lead level. Subsequent samples showed the lead level to be well below the guideline.

No other health related guidelines were exceeded.

The Kenora Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
KINGSTON WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Kingston Water Treatment Plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. Sulphur dioxide is added to remove the excess chlorine from the disinfection process. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. This plant has a rated capacity of 118 x 1000 m^3/day. The Kingston Water Treatment Plant serves a population of approximately 80,500.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,877 tests were performed in 5 sample events from the Kingston Water Treatment Plant.

No known health related guidelines were exceeded.

The Kingston Water Treatment Plant, for the sample years 1996 and 1997, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
KITCHENER (MANNHEIM) WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Kitchener (Mannheim) Water Treatment Plant, operated by the Regional Municipality of Waterloo, is a conventional treatment plant which treats water from the Grand River. The Grand River which drains a predominantly agricultural watershed flows into Lake Erie. Raw water is pumped 10 kilometres from the Grand River to the Mannheim treatment facility. The process consists of pre-ozonation, coagulation, flocculation, sedimentation, filtration (choice of dual media filters or granular activated carbon (GAC) filters) and disinfection. This facility was commissioned in the spring of 1992 and has a design capacity of 72 x 1000 m^3/day. The Kitchener (Mannheim) Water Treatment Plant, together with the many wells in the Kitchener groundwater supply, serve a population of approximately 147,100.

Plant raw and treated water and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters. The Kitchener distribution location is likely to be a mixture of plant and groundwater from the many wells that supply the system.

For 1996 and 1997, a total of 4,434 tests were performed on water from the Kitchener (Mannheim) Water Treatment Plant in 9 sample events and a N-Nitrosodimethylamine (NDMA) survey conducted during the winters of 1996 and 1997, from

No known health related guidelines were exceeded in the DWSP samples.

The Kitchener (Mannheim) Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

.....50

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
LINDSAY WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Lindsay Water Treatment Plant is a conventional treatment plant which treats water from the Scugog River. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, pH adjustment and disinfection. Chlorine dioxide is generated on site when required and activated silica is used as a coagulant aid. This plant has a design capacity of 22.7 x 1000 m^3/day. The Lindsay Water Treatment Plant serves a population of approximately 15,000.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,211 tests were performed in 6 sample events from the Lindsay Water Treatment Plant.

No known health related guidelines were exceeded.

The finding of positive levels of specific volatile organics in the summer months is consistent with previous years and may be attributed to recreational activity in the river.

The persistent finding of aluminum levels above the Ontario Drinking Water Objective operational guideline of 100 µg/L in the treated and distributed water suggest that the treatment process should be optimized.

The Lindsay Water Treatment Plant, for the sample years 1996 and 1997, produced water acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
LONDON (LAKE HURON) WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The London (Lake Huron) Water Treatment Plant located at Grand Bend, is a conventional treatment plant which treats water from Lake Huron. The process consists of coagulation, flocculation, sedimentation, filtration and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. Treated water from this plant is pumped to the city of London where it is fluoridated at the Arva reservoir prior to distribution. This plant has a design capacity of 145 x 1000 m^3/day. The London (Lake Huron) water supply system serves a population of approximately 303,000.

Raw and treated water at the plant, treated water at the Arva reservoir and one location in the distribution were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,777 tests were performed in 4 sample events from the London (Lake Huron) Water Treatment Plant.

No known health related guidelines were exceeded.

The London (Lake Huron) water supply system, for the sample years 1996 and 1997, produced good quality water. and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
MADSEN WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The community of Madsen is located in the Red Lake area of Northern Ontario. The Madsen Water Treatment Plant is a pumping station which pumps water from Russet Lake. The sole treatment is disinfection. Raw water is pumped from the lowlift, located at the lake, to a storage reservoir on higher ground. Sodium hypochlorite is added at the inlet of the reservoir for disinfection, the treated water is then pumped to the distribution. The plant has a design capacity of 0.87 x 1000 m^3/day. The Madsen Water Treatment Plant serves a population of approximately 300.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,812 tests were performed in 5 sample events from the Madsen Water Treatment Plant.

The Ontario Drinking Water Objective (ODWO) for lead (10 µg/L) was exceeded in 1 distributed water sample. The MOE District Officer was notified. Inadequate flushing of the standing water from the pipes may have contributed to the elevated lead level.

High iron, lead and zinc detected in a distribution sample indicates that household taps were not sufficiently flushed, until the coolest water temperature is obtained, before water was sampled.

The average total trihalomethane concentration of 200 µg/L in the Madsen distribution samples for 1997 exceeded the ODWO of 100 µg/L (based on a running average of 4 quarterly samples).

No other health related guidelines were exceeded.

High organic carbon and colour and the resulting elevated trihalomethane in the treated water can be attributed to the lack of physical-chemical treatment at this facility.

The Madsen Water Treatment Plant, for the sample years 1996 and 1997, produced adequate quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
METRO TORONTO (F. J. HORGAN) WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Metro Toronto (F. J. Horgan) Water Treatment Plant is a direct filtration treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, filtration, fluoridation and disinfection. Ammonia is added to the disinfection process to convert the free chlorine into a combined (chloramine) residual and sulphur dioxide is added to remove excess chlorine. This plant has a rated capacity of 550 x 1,000 m^3/day. The Metro Toronto (F. J. Horgan) Water Treatment Plant, together with the other Metro plants (R.L. Clark, R.C. Harris and the Island Plant) serve a population of approximately 2,333,300.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

A summary of supplementary radiological data, provided by the Ontario Ministry of Labour, Radiation Protection Laboratory, is presented in this report.

From 1996 to 1997, a total of 1,094 tests were performed in 3 sample events from the Metro Toronto (F. J. Horgan) Water Treatment Plant.

No known health related guidelines were exceeded.

The Metro Toronto (F. J. Horgan) Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

.....55

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
METRO TORONTO (R. C. HARRIS) WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Metro Toronto (R. C. Harris) Water Treatment Plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Ammonia is used in the disinfection process to convert free chlorine to a combined (chloramine) residual and sulphur dioxide is used to remove the excess chlorine. This plant has a design capacity of 1,000 x 1000 m^3/day. The Metro Toronto (R. C. Harris) Water Treatment Plant together with the other Metro plants serves a population of approximately 2,333,300.

Raw and treated water at the plant and water at one location in the distribution was sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

A summary of supplementary radiological data, provided by the Ontario Ministry of Labour, Radiation Protection Laboratory, is presented in this report.

For 1996 and 1997, a total of 941 tests were performed in 3 sample events from the Metro Toronto (R. C. Harris) Water Treatment Plant.

No known health related guidelines were exceeded.

The Metro Toronto (R. C. Harris) Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system for.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
METRO TORONTO (R. L. CLARK) WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Metro Toronto (R. L. Clark) Water Treatment Plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Ammonia is used in the disinfection process to convert free chlorine into a combined (chloramine) residual and sulphur dioxide is used to remove the excess chlorine. This plant has a rated capacity of 659 x 1000 m^3/day. The Metro Toronto (R. L. Clark) Water Treatment Plant together with the other Metro plants, serves a population of approximately 2,333,300.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

A summary of supplementary radiological data, provided by the Ontario Ministry of Labour, Radiation Protection Laboratory, is presented in this report.

For 1996 and 1997, a total of 1,513 tests were performed in 4 sample events from the Metro Toronto (R. L. Clark) Water Treatment Plant.

No known health related guidelines were exceeded.

The Metro Toronto (R. L. Clark) Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
METRO TORONTO (TORONTO ISLAND) WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Metro Toronto (Island) Water Treatment Plant is a seasonal plant that operates for about five months every summer. It is a direct filtration plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, filtration, fluoridation and disinfection. Ammonia is used in the disinfection process to convert free chlorine into a combined (chloramine) residual and sulphur dioxide is used to remove excess chlorine. This plant has a design capacity of 409 x 1000 m^3/day. For the sample period of 1996 and 1997, the Toronto Island treatment facility did not operate continuously during the summer months. The Metro Toronto (Island) Water Treatment Plant together with the other Metro plants, serves a population of approximately 2,333,300.

Raw and treated water at the plant was sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 601 tests were performed in 2 sample events from the Metro Toronto (Island) Water Treatment Plant.

No known health related guidelines were exceeded.

The Metro Toronto (Island) Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
MIDLAND WELL SUPPLY
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Midland Well Supply consists of four groundwater systems which discharge separately into the distribution. The largest system has a network of 7 active wells which pump water into a long narrow reservoir called a flume. The other three systems, each containing one or two wells, are controlled by the level in the water tower and stand pipe in the distribution. All water entering the distribution is disinfected. The maximum pumping capacity is 23.1 x 1000 m^3/day. The Midland Well Supply serves a population of approximately 12,000.

Raw water from 10 wells, treated water from the flume reservoir and at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, total of 3,437 tests were performed in 4 sample events from the Midland Well Supply.

No known health related guidelines were exceeded.

The presence of minerals and salts above aesthetic guidelines as prescribed in the Ontario Drinking Water Objectives is characteristic of many groundwater sources.

The Midland Well Supply, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
MITCHELL'S BAY WATER TREATMENT PLANT
1996 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Mitchell's Bay Water Treatment Plant is a package plant which uses conventional treatment and treats water from Lake St. Clair. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Powder activated carbon is added for taste and odour control. This plant has a design capacity of 1.09 x 1000 m^3/day. The Mitchell's Bay Water Treatment Plant serves a population of approximately 400.

Raw and treated water at the plant were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996, a total of 542 tests were performed in 2 sample events from the Mitchell's Bay Water Treatment Plant.

No known health related guidelines were exceeded.

The Mitchell's Bay Water Treatment Plant, for the limited sampling in 1996, produced good quality water. No samples were taken in the distribution system during this sample period.

The Mitchell's Bay Water Treatment Plant was taken out of service in the summer of 1996. Municipal drinking water is now supplied by the City of Chatham.

.....60

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
NAPANEE WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Napanee Water Treatment Plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. This plant has a design capacity of 12.7 x 1000 m^3/day. The Napanee Water Treatment Plant serves a population of approximately 5,000.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,620 tests were performed in 4 sample events from the Napanee Water Treatment Plant.

No known health related guidelines were exceeded.

The Napanee Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
NIAGARA FALLS WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Niagara Falls Water Treatment Plant, operated by the Regional Municipality of Niagara, is a conventional treatment plant which treats water from the Niagara River at the junction of the Welland River. The process consists of coagulation, flocculation, sedimentation, filtration and disinfection. Powder activated carbon is added for taste and odour control as required. The dual media (anthracite/sand) filters were replaced with granular activated carbon (GAC) in the summer of 1995. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. This plant has a rated capacity of 145 x 1000 m^3/day. The Niagara Falls Water Treatment Plant serves a population of approximately 69,000.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic and organic parameters.

For 1996 and 1997, a total of 1,566 tests were performed in 5 sample events from the Niagara Falls Water Treatment Plant.

No known health related guidelines were exceeded.

The Niagara Falls Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
NIPIGON WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Nipigon Water Treatment Plant partially treats water from the Nipigon River. Raw water is pumped through sand filters and then disinfected. No chemical coagulant is added. This plant has a design capacity of 3.7 x 1000 m^3/day. The Nipigon Water Treatment Plant serves a population of approximately 2,500.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,433 tests were performed in 7 sample events from the Nipigon Water Treatment Plant.

Turbidity levels exceeded the Ontario Drinking Water Objective of 1.0 PTU in 3 treated water samples. The MOE District Officer was notified. Since turbidity can interfere with the disinfection process, it is advisable that the results of the bacteriological survey be reviewed to ensure that they are within acceptable limits.

No other health related guidelines were exceeded.

The elevated results for colour, dissolved organic carbon and turbidity in the treated water can be attributed to the lack of conventional treatment at this facility.

The Nipigon Water Treatment Plant, for the sample years 1996 and 1997, produced adequate quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
NORTH BAY WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The North Bay Water Treatment Plant is a pumping station which partially treats water from Trout Lake. The process consists of pH adjustment, fluoridation and disinfection. This plant has a rated capacity of 22.5 x 1000 m^3/day. The North Bay Water Treatment Plant serves a population of approximately 50,000.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,830 tests were performed in 5 sample events from the North Bay Water Treatment Plant.

No known health related guidelines were exceeded.

The North Bay Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
OAKVILLE WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Oakville Water Treatment Plant, operated by the Regional Municipality of Halton, is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. Ammonia is added to the disinfection process to convert free chlorine to a combined (chloramine) residual and sulphur dioxide is added to remove the excess chlorine. This plant has a design capacity of 109 x 1000 m^3/day. The Oakville Water Treatment Plant serves a population of approximately 83,200.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,549 tests were performed in 4 sample events from the Oakville Water Treatment Plant.

No known health related guidelines were exceeded.

The Oakville Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

.....65

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
ODESSA WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Odessa Water Treatment Plant is a conventional treatment plant which treats water from Millhaven Creek. Millhaven Creek flows into eastern Lake Ontario. The treatment process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, and disinfection. Granular activated carbon (GAC) contactors are part of the treatment process. This plant has a design capacity of 0.81 x 1000 m^3/day. The Odessa Water Treatment Plant serves a population of approximately 900.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 4,767 tests were performed on water from the Odessa Water Treatment Plant in 10 sample events and additional sampling for N-Nitrosodimethylamine (NDMA),.

The Ontario Drinking Water Objective for NDMA (0.009 µg/L) was exceeded in 1 treated water sample. The MOE District Officer was notified.

No other known health related guidelines were exceeded.

The Odessa Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
OHSWEKEN WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Ohsweken Water Treatment Plant, operated by the First Nations community of Ohsweken, is a package plant which uses conventional treatment and treats water from the Grand River. The Grand River drains a predominantly agricultural watershed which flows into Lake Erie. The treatment process consists of coagulation, flocculation, sedimentation, filtration and disinfection. An Ultra Violet (UV) irradiation unit was installed in December 1993 to prevent the formation of N-Nitrosodimethylamine (NDMA). This plant has a design capacity of 1.04 x 1000 m^3/day. The Ohsweken Water Treatment Plant serves a population of approximately 2,000.

Raw and treated water at the plant and water at two locations in the distribution were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 4,447 tests were performed on water from the Ohsweken Water Treatment Plant in 11 sample events and a NDMA survey conducted during the winters of 1996 and 1997,.

The Ontario Drinking Water Objective (ODWO) for NDMA (0.009µg/L) was exceeded in 1 treated water sample. The MOE District Officer was notified.

Turbidity levels were above the ODWO of 1.0 FTU in 1 treated water sample. The MOE District Officer was notified. It is advisable that the results of the bacteriological survey be reviewed to ensure that they are within acceptable limits.

No other known health related guidelines were exceeded.

The number of pesticides detected at the Ohsweken Water Treatment Plant indicates that this raw water source is affected by agricultural activity. These results were similar to those found in previous years.

The persistent finding of aluminum levels above the ODWO

.....67

operational guideline of 100 µg/L in the treated water indicates that the treatment process should be optimized.

The Ohsweken Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
ORILLIA WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Orillia Water Supply System includes two raw water sources: Lake Couchiching and a groundwater source with two wells. The lake water is treated using a conventional treatment process consisting of coagulation, flocculation, sedimentation, filtration and disinfection. This plant has a rated capacity of 27.27 x 1000 m^3/day. The Orillia Water Treatment Plant completed a major upgrade in 1996. The groundwater source consists of two deep wells located close to the treatment plant. Groundwater is pumped directly to the treatment plant where it mixes with treated plant effluent in the clear well. The blended water is disinfected and pumped into the distribution system. The wells supply up to 25% of the total demand of the system. The Orillia water supply system serves a population of approximately 25,000.

Raw and treated water at the plant, raw water from the two wells and treated water from one location in the distribution system was sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,081 tests were performed in 3 sample events from the Orillia Water Treatment Plant and wells.

No known health related guidelines were exceeded.

The Orillia Water Supply System, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
OSHAWA WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Oshawa Water Treatment Plant, operated by the Regional Municipality of Durham, is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. This plant has a rated capacity of 136 x 1000 m^3/day. The Oshawa Water Supply System serves a population of approximately 173,229.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

A summary of supplementary radiological data, provided by the Ontario Ministry of Labour, Radiation Protection Laboratory, is presented in this report.

For 1996 and 1997, a total of 1,157 tests were performed in 3 sample events from the Oshawa Water Treatment Plant.

The Ontario Drinking Water Objective for fluoride (1.5 mg/L) was exceeded in 1 treated water sample. The MOE District Officer was notified. The treatment process for fluoride addition should be reviewed.

No other health related guidelines were exceeded.

The Oshawa water supply system, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
OTTAWA (BRITANNIA) WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Ottawa (Britannia) Water Treatment Plant, operated by the Regional Municipality of Ottawa-Carleton, is a conventional treatment plant which treats water from the Ottawa River. The process consists of coagulation, flocculation, sedimentation, filtration, pH adjustment, fluoridation and disinfection. Ammonia is used in the disinfection process to convert free chlorine to a combined (chloramine) residual. This plant has a rated capacity of 350 x 1000 m^3/day. The Ottawa (Britannia) water supply system, together with the Ottawa (Lemieux Island) plant, serves a population of approximately 515,500.

Raw and treated water at the plant and water at three locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,460 tests were performed in 4 sample events from the Ottawa (Britannia) Water Treatment Plant.

No known health related guidelines were exceeded.

The Ottawa (Britannia) Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
OTTAWA (LEMIEUX ISLAND) WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Ottawa (Lemieux Island) Water Treatment Plant, operated by the Regional Municipality of Ottawa-Carleton, is a conventional treatment plant which treats water from the Ottawa River. The process consists of coagulation, flocculation, sedimentation, filtration, pH adjustment, fluoridation and disinfection. Ammonia is used in the disinfection process to convert free chlorine to a combined (chloramine) residual. This plant has a design capacity of 298 x 1000 m^3/day. The Ottawa (Lemieux Island) water supply system together with the Ottawa (Britannia) plant serve a population of approximately 523,800.

Raw and treated water at the plant and at two locations in the distribution system was sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,732 tests were performed in 5 sample events from the Ottawa (Lemieux Island) Water Treatment Plant.

No known health related guidelines were exceeded.

The Ottawa (Lemieux Island) Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
OWEN SOUND WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Owen Sound Water Supply System receives water from two sources. The primary source is the Owen Sound Water Treatment Plant which treats water from Georgian Bay. The treatment process is direct filtration and consists of coagulation, flocculation, filtration, fluoridation and disinfection. This plant has a rated capacity of 36.4 x 1000 m^3/day.

The secondary source is the Owen Sound Spring supply which collects water from high ground surrounding the town. This system has disinfection and fluoridation and supplies an area of town by gravity. The spring supply has a maximum capacity of 4.5 x 1000 m^3/day.

The Owen Sound water supply system serves a population of approximately 20,000.

Raw and treated water at the Water Treatment Plant and water at three locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters. The Owen Sound Spring system was not sampled during this sampling period.

For 1996 and 1997, a total of 1,984 tests were performed in 6 sample events from the Owen Sound Water Treatment Plant.

No known health related guidelines were exceeded.

The Owen Sound Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
PAISLEY WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Paisley Water Treatment Plant is a conventional treatment plant which treats water from the Teeswater River. The process consists of coagulation, flocculation, sedimentation (upflow clarifier), filtration and disinfection. Activated silica is used as a coagulant aid. This plant has a rated capacity of 1.630 x 1000 m^3/day. The Paisley Water Treatment Plant serves a population of approximately 1,100.

Raw and treated water at the plant and water at two locations in the distribution system was sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, total of 3,468 tests were performed on water from the Paisley Water Treatment Plant in 8 sample events and a special survey for N-Nitrosodimethylamine (NDMA) conducted during the winters of 1996 and 1997.

The Ontario Drinking Water Objective (ODWO) for NDMA (0.009 µg/L) was exceeded in 3 treated water samples. The MOE District Officer was notified. The use of a particular blend of coagulant and polymer is suspected to have formed NDMA in the treatment process.

No other health related guidelines were exceeded.

The Paisley Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
PEMBROKE WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Pembroke Water Treatment Plant is a conventional treatment plant which treats water from the Ottawa River. The process consists of alkalinity adjustment, coagulation, flocculation, sedimentation, filtration, pH adjustment and disinfection. This plant has a rated capacity of 25.5 x 1000 m^3/day. The Pembroke Water Treatment Plant serves a population of approximately 20,500.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,182 tests were performed in 6 sample events from the Pembroke Water Treatment Plant.

No known health related guidelines were exceeded.

The Pembroke Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
PENETANGUISHENE WELL SUPPLY
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Penetanguishene Well Supply is a groundwater system consisting of a network of three wells called the Payette well field with a reservoir located on high ground overlooking the town. There are two pressure zones in this system. Water feeds the lower pressure zone in town by gravity. A second pressure zone exists on the high ground and water is pumped from the reservoir to a water tower by a booster pump. The water is disinfected at the reservoir. The maximum pumping capacity of the system is 11.6 x 1000 m^3/day. The Penetanguishene Well Supply serves a population of approximately 6,400.

Two wells, located in the lower pressure zone, were taken out of service in 1992 because of volatile organic contamination in the aquifer.

Raw water from 3 wells, treated water from the reservoir and at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,507 tests were performed in 4 sample events from the Penetanguishene Well Supply.

No known health related guidelines were exceeded.

The Penetanguishene Well Supply, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
PERTH WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Perth Water Treatment Plant is a conventional treatment plant which treats water from the Tay River. The process consists of coagulation, flocculation, sedimentation, filtration, pH adjustment, taste and odour control and disinfection. Powder activated carbon is added for taste and odour control when required and chlorine dioxide is generated on site to provide an initial disinfection. This plant has a design capacity of 9.1 x 1000 m³/day. The Perth Water Treatment Plant serves a population of approximately 6,100.

Raw and treated water at the plant and treated water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,096 tests were performed in 6 sample events from the Perth Water Treatment Plant.

The Ontario Drinking Water Objective for lead (10 µg/L) was exceeded in 1 distributed water sample. The MOE District Officer was notified. Inadequate flushing of the standing water from the pipes may have contributed to the elevated lead level. Subsequent samples showed the lead level to be well below the guideline.

No other known health related guidelines were exceeded.

The Perth Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
PETERBOROUGH WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Peterborough Water Treatment Plant is a conventional treatment plant which treats water from the Otonabee River. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. Sulphur dioxide is added to remove excess chlorine from the disinfection process and sodium silicate is added for pH adjustment. This plant has a rated capacity of 104 x 1000 m^3/day. The Peterborough water supply system serves a population of approximately 68,371.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,049 tests were performed in 6 sample events from the Peterborough Water Treatment Plant.

No known health related guidelines were exceeded.

The Peterborough Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
PICTON WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Picton Water Treatment Plant is a conventional treatment plant which treats water from the Bay of Quinte. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. Powder activated carbon is added for taste and odour control. This plant has a design capacity of 10.9 x 1000 m^3/day. The Picton Water Treatment Plant serves a population of approximately 6,000. A major upgrade of the plant was started in 1995.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,744 tests were performed in 5 sample events from the Picton Water Treatment Plant.

No known health related guidelines were exceeded.

The Picton Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
PLANTAGENET WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Plantagenet Water Treatment Plant is a conventional treatment plant which treats water from the South Nation River. The South Nation River drains a predominantly agricultural watershed to the east of Ottawa. The treatment process consists of coagulation, flocculation, sedimentation, filtration, pH adjustment and disinfection. Powder activated carbon is added for taste and odour control. This plant has a design capacity of 1.7 x 1000 m^3/day. The Plantagenet Water Treatment Plant serves a population of approximately 850.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 6,257 tests were performed on water from the Plantagenet Water Treatment Plant in 12 sample events and a N-Nitrosodimethylamine (NDMA) survey conducted during the winters of 1996 and 1997.

The Ontario Drinking Water Objective (ODWO)for NDMA (0.009 µg/L) was exceeded in 2 treated water samples. The MOE District Officer was notified.

No other known health related guidelines were exceeded.

The presence of atrazine and traces of other pesticides at the Plantagenet Water Treatment Plant indicates that this raw water source is influenced by agricultural activity. The results were similar to those found in previous years.

The Plantagenet Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
PORT COLBORNE WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Port Colborne Water Treatment Plant, operated by the Regional Municipality of Niagara, is a conventional treatment plant which treats water from Lake Erie. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. This plant has a rated capacity of 27.270 x 1000 m^3/day. The Port Colborne Water Treatment Plant serves a population of approximately 15,092.

Raw and treated water at the plant and water at one location in the distribution system was sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,529 tests were performed in 4 sample events from the Port Colborne Water Treatment Plant.

No known health related guidelines were exceeded.

The Port Colborne Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

.....81

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
PORT DOVER WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Port Dover Water Supply System, operated by the Regional Municipality of Haldimand-Norfolk, is a conventional Water Treatment Plant which treats water from Lake Erie. The treatment process consists of coagulation, flocculation, sedimentation, filtration and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. This plant has a design capacity of 12.8 x 1000 m^3/day. The Port Dover water supply system serves a population of approximately 5,400.

Raw and treated water at the plant and water at two locations in the distribution were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,359 tests were performed in 4 sample events from the Port Dover Water Treatment Plant

No known health related guidelines were exceeded.

The Port Dover water supply system, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

.....82

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
PORT ELGIN WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Port Elgin Water Treatment Plant is a conventional treatment plant which treats water from Lake Huron. The process consists of coagulation, flocculation, clarification (upflow clarifier), fluoridation, and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. This plant has a rated capacity of 8.7 x 1000 m^3/day. The Port Elgin Water Treatment Plant serves a population of approximately 6,800.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

A summary of supplementary radiological data, provided by the Ontario Ministry of Labour, Radiation Protection Laboratory, is presented in this report.

For 1996 and 1997, a total of 1,530 tests were performed in 4 sample events from the Port Elgin Water Treatment Plant.

No known health related guidelines were exceeded.

The Port Elgin Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

.....83

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
PORT HOPE WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Port Hope Water Treatment Plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. This plant has a design capacity of 29.1 x 1000 m^3/day. The Port Hope Water Treatment Plant serves a population of approximately 11,600.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,950 tests were performed in 5 sample events from the Port Hope Water Treatment Plant.

No known health related guidelines were exceeded.

The Port Hope Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
PORT ROWAN WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Port Rowan Water Treatment Plant, operated by the Regional Municipality of Haldimand-Norfolk, is a package plant which uses conventional treatment and treats water from Lake Erie. This is a new plant commissioned in the summer of 1992. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. Granular activated carbon (GAC) contactors are used in addition to the dual media filters during the summer months. This plant has a design capacity of 3.0 x 1000 m^3/day. The Port Rowan Water Treatment Plant serves a population of approximately 1,280.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,352 tests were performed in 4 sample events from the Port Rowan Water Treatment Plant.

No known health related guidelines were exceeded.

The Port Rowan Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
PORT STANLEY WATER TREATMENT PLANT
1996 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Port Stanley Water Treatment Plant is a conventional treatment plant which treats water from Lake Erie. The process consists of coagulation, flocculation, sedimentation, filtration (using pressure filters), disinfection and fluoridation. This plant has a design capacity of 3.2 x 1000 m^3/day. The Port Stanley Water Treatment Plant serves a population of approximately 2,100.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For the limited sampling period of 1996, a total of 351 tests were performed in 1 sample event from the Port Stanley Water Treatment Plant.

No known health related guidelines were exceeded.

The Port Stanley Water Treatment Plant, for the limited sampling period of 1996, produced good quality water and this was maintained in the distribution system.

The Port Stanley Water Treatment Plant was taken out of service in the summer of 1996. Municipal drinking water is now supplied by the Elgin Area Water Supply which supplies the City of St. Thomas and the south end of the City of London.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
PRESCOTT WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Prescott Water Treatment Plant is a direct filtration plant which treats water from the St. Lawrence River. The process consists of coagulation, flocculation, filtration, fluoridation and disinfection. Chlorine dioxide is generated on site to provide initial disinfection. This plant has a design capacity of 11.1 x 1000 m^3/day. The Prescott Water Treatment Plant serves a population of approximately 4,600.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,800 tests were performed in 5 sample events from the Prescott Water Treatment Plant.

No known health related guidelines were exceeded.

The Prescott Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
RAINY RIVER WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Rainy River Water Treatment Plant is a Degremont package plant which treats water from Rainy River. The process consists of coagulation, flocculation, sedimentation, filtration, Ph adjustment and disinfection. This plant has a rated capacity of 2.4 x 1000 m^3/day. The Rainy River Water Treatment Plant serves a population of approximately 1,000.

Raw and treated water at the plant and water at three locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,403 tests were performed in 7 sample events from the Rainy River Water Treatment Plant.

No known health related guidelines were exceeded.

The detection of specific organic compounds at positive and trace levels in many raw water samples is consistent with results reported in previous years and may be an indicator of industrial discharge to the river.

The persistent finding of aluminum levels above the Ontario Drinking Water Objective operational guideline of 100 µg/L in the treated and distributed water would suggest that the treatment process be optimized.

The Rainy River Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

.....88

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
RED LAKE WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Red Lake Water Treatment Plant is a new conventional treatment plant which started production in the summer of 1997. Prior to this date a pumping station provided water with disinfection only.

The new Water Treatment Plant is a package plant with two parallel units. The treatment process is identical for each unit and consists of coagulation, flocculation, sedimentation including plate settlers, filtration and disinfection. Sodium carbonate is used for both pre-alkalinity adjustment and post pH adjustment. The new facility uses the existing lowlift structure and intake and pumps raw water from Skookum Bay in Red Lake. The plant has a design capacity of 4.36 x1000 m^3/day. The Red Lake Water Treatment Plant serves a population of approximately 2,060.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,847 tests were performed in 6 sample events from the Red Lake Water Treatment Plant.

No known health related guidelines were exceeded.

Conventional treatment provides efficient removal for compounds such as organic carbon, colour, turbidity and reduces the formation of disinfection by-products.

The Red Lake Water Treatment Plant, for the sample period of 1996 and part of 1997, produced water of an adequate quality. After the new facility started operation in June 97, the water quality improved to good and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
RED ROCK WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Red Rock Water Treatment Plant is a conventional treatment plant which treats water from Lake Superior. The process consists of coagulation, flocculation, clarification (upflow solids contact clarifier), filtration, post pH adjustment, fluoridation and disinfection. This plant has a design capacity of 3.0 x 1000 m^3/day. The Red Rock Water Treatment Plant serves a population of approximately 1,400.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,765 tests were performed in 5 sample events from the Red Rock Water Treatment Plant.

No known health related guidelines were exceeded.

The Red Rock Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

.....90

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
RENFREW WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Renfrew Water Treatment Plant is a conventional treatment plant which treats water from the Bonnechere River. The process consists of coagulation, flocculation, sedimentation, filtration, pH adjustment, fluoridation and disinfection. This plant has a rated capacity of 7.0 x 1000 m^3/day. The Renfrew Water Treatment Plant serves a population of approximately 7,900.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,833 tests were performed in 5 sample events from the Renfrew Water Treatment Plant.

No known health related guidelines were exceeded.

The Renfrew Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
ROCKLAND WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Rockland Water Treatment Plant is a conventional treatment plant which treats water from the Ottawa River. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, pH adjustment and disinfection. This plant has a design capacity of 7.3 x 1000 m^3/day. The Rockland Water Treatment Plant serves a population of approximately 7,000.

Raw and treated water at the plant and water at three locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,269 tests were performed in 6 sample events from the Rockland Water Treatment Plant.

No known health related guidelines were exceeded.

The Rockland Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
SARNIA (LAMBTON AREA) WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Sarnia (Lambton Area) Water Treatment Plant is a direct filtration plant which treats water from the St. Clair River. The process consists of coagulation, flocculation, filtration, disinfection and fluoridation. This plant has a rated capacity of 188 x 1000 m^3/day. The Sarnia (Lambton Area) Water Treatment Plant serves a population of approximately 95,000.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,228 tests were performed in 6 sample events from the Sarnia (Lambton Area) Water Treatment Plant.

No known health related guidelines were exceeded.

The Sarnia (Lambton Area) Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
SAULT STE. MARIE WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Sault Ste. Marie Water Supply System treats surface water from Lake Superior and groundwater from four well sources. The Water Treatment Plant is a direct filtration plant. The process consists of coagulation, flocculation, filtration, and disinfection. Ammonia was used in the disinfection process to convert free chlorine to a combined (chloramine) residual. This plant has a rated capacity of 20.8 x 1000 m^3/day. Groundwater, from four wells in two aquifers, is disinfected and pumped into the distribution. The groundwater source provides up to 50% of the total water demand. The distribution system is a mixture of water supplied by the treatment plant and the groundwater supply. The Sault Ste. Marie Water Supply System serves a population of approximately 85,000.

For the 1996 and 1997 sampling period only water from the Water Treatment Plant and the distribution system were sampled. Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,540 tests were performed in 4 sample events from the Sault Ste. Marie Water Treatment Plant and distribution.

No known health related guidelines were exceeded.

The Sault Ste. Marie Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
SMITHS FALLS WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Smiths Falls Water Treatment Plant is a conventional treatment plant which treats water from the Rideau River. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine dioxide is generated on site and is used when required for taste and odour control. This plant has a rated capacity of 18.1 x 1000 m^3/day. The Smiths Falls Water Treatment Plant serves a population of approximately 10,700.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,106 tests were performed in 6 sample events from the Smiths Falls Water Treatment Plant.

No known health related guidelines were exceeded.

The Smith Falls Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

.....95

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
SOUTHAMPTON WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Southampton Water Treatment Plant is a conventional treatment plant which treats water from Lake Huron. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, and disinfection. This plant has a design capacity of 6.3 x 1000 m^3/day. The Southampton Water Treatment Plant serves a population of approximately 4,800.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,596 tests were performed in 6 sample events from the Southampton Water Treatment Plant.

The Ontario Drinking Water Objective for lead (10 µg/L) was exceeded in 2 distributed water samples. The MOE District Officer was notified. Inadequate flushing of the standing water from the pipes may have contributed to the elevated lead levels. Subsequent samples showed the lead levels to be well below the guideline.

No other health related guidelines were exceeded.

The Southampton Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water.

.....96

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
SOUTH PEEL (LAKEVIEW) WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The South Peel (Lakeview) Water Treatment Plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. Ammonia is added to convert the disinfectant to a combined chlorine residual and sulphur dioxide is used to remove excess chlorine. This plant has a rated capacity of 437 x 1000 m^3/day. The South Peel (Lakeview) Water Treatment Plant, together with the Lorne Park Water Treatment Plant serves a population of approximately 700,000.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,093 tests were performed in 3 sample events from the South Peel (Lakeview) Water Treatment Plant.

No known health related guidelines were exceeded.

The South Peel (Lakeview) water supply system, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

.....97

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
SOUTH PEEL (LORNE PARK) WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The South Peel (Lorne Park) Water Treatment Plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. This plant has a design capacity of 210 x 1000 m^3/day. The South Peel (Lorne Park) water supply system, together with the Lakeview Water Treatment Plant, serve a population of approximately 700,000.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,030 tests were performed in 3 sample events from the South Peel (Lorne Park) Water Treatment Plant.

No known health related guidelines were exceeded.

The South Peel (Lorne Park) water supply system, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

.....98

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
ST. CATHARINES (DE CEW) WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The St. Catharines (De Cew) Water Treatment Plant, operated by the Regional Municipality of Niagara, is a conventional treatment plant which treats water from the Welland Canal. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. Powder activated carbon is added for taste and odour control. The dual media (anthracite/sand) filters were replaced with granular activated carbon (GAC) in the spring of 1995. This plant has a rated capacity of 190 x 1000 m^3/day. The St. Catharines (De Cew) water supply system serves a population of approximately 150,500.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,206 tests were performed in 6 sample events from the St. Catharines (De Cew) Water Treatment Plant.

No known health related guidelines were exceeded.

The St. Catharines (De Cew) Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
STONEY POINT (TILBURY NORTH) WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Stoney Point (Tilbury North) Water Treatment Plant is a conventional treatment plant which treats water from Lake St. Clair. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration (using pressure filters), fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. This plant has a rated capacity of 3.1 x 1000 m^3/day. The Stoney Point (Tilbury North) water supply system serves a population of approximately 3,500.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,250 tests were performed in 6 sample events from the Stoney Point (Tilbury North) Water Treatment Plant.

No known health related guidelines were exceeded.

The presence of trace levels of atrazine, dicamba and other pesticides at the Stoney Point Water Treatment Plant indicates that the raw water source is influenced by agricultural activity.

The Stoney Point (Tilbury North) water supply system, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

.....100

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
ST. PASCAL WELL SUPPLY
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities. The DWSP was initiated at the St. Pascal Well Supply in January 1996 in response to concerns regarding water quality.

The community of St. Pascal Baylon, located in Clarence Township an agricultural area of the Ottawa valley, uses ground water as its source of drinking water.

A Ministry of the Environment hydrology report published in 1976 states that the hydrogeology of the St. Pascal area is underlain primarily by members of the Ottawa and Eastview formations. The bedrock is predominantly shale and limestone with about 30 metres of overburden above the bedrock under the village. Results of a water sampling program in the area indicate that most private wells are susceptible to bacterial contamination from surface drainage and septic systems and spring flooding of the area is a common occurrence. Low yields and poor quality water with high dissolved solids, chloride and sodium are expected. The high natural organic content of the raw water contributes to the formation of chlorination by-products as a result of disinfection.

One deep well, located two kilometres from the village, supplies raw water to the treatment plant. The water from this source is highly coloured, has elevated levels of organic carbon and is of poor aesthetic quality. The treatment process consists of physical/chemical treatment and disinfection. Hydrogen peroxide is added to the raw water to inhibit the biological growth associated with the high organic carbon content. The water is aerated and pumped through two granular activated carbon contactors (filters) connected in series. After the carbon filters, the water is collected in a reservoir where chlorine is added for disinfection. In April 1996 ammonia was added to the reservoir to convert the free chlorine to a combined chlorine residual thereby reducing the levels of trihalomethanes formed in the treated water. The treated water is then pumped into the distribution.

The maximum pumping capacity of the system is 0.6 x 1000 m^3/day. The St. Pascal Well Supply serves a population of approximately

.....101

To evaluate the efficiency of the plant process water was sampled from the well, after the addition of hydrogen peroxide, from each of the carbon filters, from the reservoir and at one location in the distribution system. All water was sampled for the presence of approximately 200 bacteriological, inorganic, and organic parameters.

For 1996 and 1997, a total of 8,338 tests were performed in 26 sample events at the St. Pascal Well Supply.

The Ontario Drinking Water Objective (ODWO) for Chromium (50 µg/L) was exceeded in 1 of 23 treated and distributed water samples. The MOE District Officer was notified.

The ODWO for Total Trihalomethanes (350 µg/L) was exceeded in 4 treated and distributed water samples in January 1996. The MOE District Officer was notified. The revised ODWO (100 µg/L based on a running average of 4 quarterly samples) became effective in June 1996.

The Water and Waste Water section of the MOE together with plant staff introduced operating measures aimed at keeping the THM levels below this new ODWO limit.

No other known health related guidelines were exceeded.

The raw water source for the St. Pascal Well Supply is of poor quality and this was reflected in the results for the sample years of 1996 and 1997.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
ST. THOMAS (ELGIN) WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The St. Thomas (Elgin) Water Supply System is a conventional treatment plant which treats water from Lake Erie. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Powder activated carbon is added for taste and odour control. This plant has a rated capacity of 45.4 x 1000 m^3/day. The St. Thomas (Elgin) water supply system serves a population of approximately 54,200 including the community of Port Stanley and the south end of the City of London.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,891 tests were performed in 5 sample events from the St. Thomas (Elgin) water supply system.

No known health related guidelines were exceeded.

The St. Thomas (Elgin) water supply system, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
SUDBURY (DAVID ST.) WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Sudbury (David St.) Water Treatment Plant is a pumping station with microstrainers. Water from Ramsey Lake is partially treated and pumped to the distribution. The process consists of pH adjustment, fluoridation and disinfection. A program of corrosion control was initiated using a poly phosphate as a corrosion inhibitor in the summer of 1997. This plant has a design capacity of 34.0 x 1000 m^3/day. The Sudbury (David St.) Water Treatment Plant together with the Sudbury (Wanapitei) Water Treatment Plant serve a population of approximately 95,500.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,104 tests were performed in 6 sample events from the Sudbury (David St.) Water Treatment Plant.

Turbidity levels were above the Ontario Drinking Water Objective of 1.0 FTU in 1 treated water sample. The MOE District Officer was notified. Turbidity is a health based parameter due to its possible interference in the disinfection process. It is advisable to check the results of the bacteriological survey to ensure that they are within acceptable limits.

The elevated levels of colour and turbidity in the treated water can be attributed to the lack of full treatment at this facility.

No other ODWO health related guidelines were exceeded.

The Sudbury (David St.) Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
SUDBURY (WANAPITEI) WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Sudbury (Wanapitei) Water Treatment Plant is a direct filtration plant which treats water from the Wanapitei River. The process consists of coagulation, flocculation, filtration, post pH adjustment and disinfection. Chlorine dioxide is generated on site and is used in the summer for taste and odour control. A program of corrosion control was initiated in the summer of 1997. A polyphosphate is used as an inhibitor. This plant has a rated capacity of 54.0 x 1000 m^3/day. The Sudbury (Wanapitei) Water Treatment Plant together with the Ramsey Lake (David Street pumping Station) serves a population of approximately 95,500.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,305 tests were performed in 7 sample events from the Sudbury (Wanapitei) Water Treatment Plant.

The Ontario Drinking Water Objective for lead (10 µg/L) was exceeded in 1 treated water sample. The MOE District Officer was notified. Inadequate flushing of the standing water from the pipes may have contributed to the elevated lead level. Subsequent samples showed the lead level to be well below the guideline.

No other health related guidelines were exceeded.

The Sudbury (Wanapitei) Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
TECUMSEH WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Tecumseh Water Treatment Plant is a conventional treatment plant which treats water from Lake St. Clair. The process consists of coagulation, flocculation, clarification (upflow solids contact clarifier), filtration, fluoridation and disinfection. Powder activated carbon is added for taste and odour control. This plant has a rated capacity of 15.0 x 1000 m^3/day. The Tecumseh Water Treatment Plant serves a population of approximately 17,800.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,301 tests were performed in 6 sample events from the Tecumseh Water Treatment Plant.

No known health related guidelines were exceeded.

The Tecumseh Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
TERRACE BAY WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Terrace Bay Water Treatment Plant is a privately owned facility which supplies water to the Kimberly Clark pulp mill on the north shore of Lake Superior at Terrace Bay. The plant consists of a lowlift pumping station where water from Lake Superior is chlorinated and pumped through a 1.3 m diameter transmission line to the pulp mill. The only treatment provided is disinfection. A distribution main connected to the transmission line supplies water to the town of Terrace Bay. The Terrace Bay Water Treatment Plant serves a population of approximately 2,600.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 769 tests were performed in 2 sample events from the Terrace Bay Water Treatment Plant.

No known health related guidelines were exceeded.

The Terrace Bay Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
THUNDER BAY (BARE POINT) WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Thunder Bay (Bare Point) Water Treatment Plant is a direct filtration plant which treats water from Lake Superior. The process consists of coagulation, flocculation, filtration and disinfection. This plant has a design capacity of 91.0 x 1000 m^3/day. The Thunder Bay (Bare Point) Water Treatment Plant serves a population of approximately 64,500 in the North zone of Thunder Bay. The Thunder Bay (Bare Point) Water Treatment Plant together with The Thunder Bay (Loch Lomond) facility serve a population of 112,000.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,766 tests were performed in 5 sample events from the Thunder Bay (Bare Point) Water Treatment Plant.

The Ontario Drinking Water Objective for lead (10 µg/L) was exceeded in 2 water samples from the same distribution site. The MOE District Officer was notified. Household taps should be sufficiently flushed, until the coolest water temperature is obtained, before water is used for consumption. The problem with elevated lead levels, at various sites in the distribution, is being addressed by the City of Thunder Bay.

No other health related guidelines were exceeded.

The Thunder Bay (Bare Point) Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water. The water quality deteriorated, at some locations, in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
THUNDER BAY (LOCH LOMOND) WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Thunder Bay (Loch Lomond) Water Treatment Plant treats water from Loch Lomond. The sole treatment is the addition of sodium silicate for corrosion control and disinfection. This plant has a design capacity of 77.2 x 1000 m^3/day. The Thunder Bay (Loch Lomond) Water Treatment Plant serves a population of approximately 47,500 in the South zone of Thunder Bay.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,136 tests were performed in 6 sample events from the Thunder Bay (Loch Lomond) Water Treatment Plant.

The Ontario Drinking Water Objective for lead (10 µg/L) was exceeded in 2 samples from the same distribution site. The MOE District Officer was notified. Household taps should be sufficiently flushed, until the coolest water temperature is obtained, before water is used for consumption. The problem with elevated lead levels at some sites in the distribution is being addressed by the City of Thunder Bay.

No other health related guidelines were exceeded.

Elevated levels of colour and organic carbon in the treated water can be attributed to the lack of full treatment at this facility.

The Thunder Bay (Loch Lomond) Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water[1].

---

[1]In October 1997 *Giardia* was reported to be present in the water supply, subsequently a positive test for *Cryptosporidium* was reported. The local Medical Officer of Health for the City of Thunder Bay issued a boil water order for the Loch Lomond distribution. This order remains in effect.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
TILBURY WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Tilbury Water Treatment Plant is a conventional treatment plant which treats water from Lake St. Clair. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration (pressure filters), powder activated carbon for taste and odour control, fluoridation and disinfection. Polyphosphate is added for corrosion control. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. This plant has a rated capacity of 6.5 x 1000 m^3/day. The Tilbury Water Treatment Plant serves a population of approximately 6,000.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,652 tests were performed on water from the Tilbury Water Treatment Plant in 8 sample events and a N-Nitrosodimethylamine (NDMA) survey conducted during the winter of 1997.

The Ontario Drinking Water Objective (ODWO) for lead (10 µg/L) was exceeded in 1 distributed water sample. The MOE District Officer was notified. Inadequate flushing of standing water from the pipes may have contributed to the elevated lead level. Subsequent samples showed the lead level to be well below the guideline.

The ODWO for NDMA (0.009 µg/L) was exceeded in 1 treated water sample. The MOE District Officer was notified.

No other known health related guidelines were exceeded.

The presence of trace levels of atrazine and other pesticides at the Tilbury Water Treatment Plant indicates that the raw water source is influenced by agricultural activity. The results were similar to those found in previous years.

The Tilbury Water Treatment Plant, for the sample years 1996 and

.....110

1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
TRENTON WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Trenton Water Supply System receives water from both surface and groundwater sources. The primary source is the Trent River which flows into Lake Ontario via the Bay of Quinte. The Chester Road Water Treatment Plant is a conventional treatment plant which treats water from the Trent River. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. This plant has a design capacity of 45.5 x 1000 m^3/day. The Trenton water supply system serves a population of approximately 20,000. The groundwater source supplies up to 25% of the demand.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,272 tests were performed in 6 sample events from the Trenton Water Treatment Plant.

No known health related guidelines were exceeded.

The Trenton Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
UNION (ESSEX COUNTY) WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Union Water Treatment Plant is a conventional treatment plant which treats water from Lake Erie. The process consists of coagulation, flocculation, clarification (solids contact upflow clarifier), filtration, and disinfection. Powder activated carbon is added for taste and odour control. This plant has a rated capacity of 65.9 x 1000 m^3/day. The Union (Essex county) water supply system serves a population of approximately 39,700.

Raw and treated water at the plant and water at two locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,924 tests were performed in 6 sample events from the Union (Essex County) water supply system.

No known health related guidelines were exceeded.

The Union water supply system, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
WALLACEBURG WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Wallaceburg Water Treatment Plant is a conventional treatment plant which treats water from the St. Clair River via the Chenal Escarte. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Powder Activated Carbon is added for taste and odour control, when required, and Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. Chlorine dioxide is generated as part of the disinfection process. This plant has a rated capacity of 11.8 x 1000 m^3/day. The Wallaceburg Water Treatment Plant serves a population of approximately 11,300.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,258 tests were performed in 6 sample events from the Wallaceburg Water Treatment Plant.

No known health related guidelines were exceeded.

The Wallaceburg Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
WALPOLE ISLAND WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Walpole Island Water Treatment Plant is a package plant which uses conventional treatment and treats water from St. Clair River. The treatment plant is operated by the First Nations community of Walpole Island. The treatment process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. Powder activated carbon is added on a continuous basis for taste and odour control and for removal of organics. This plant has a rated capacity of 0.87 x 1000 m^3/day. The Walpole Island Water Treatment Plant serves a population of approximately 1,900.

Raw and treated water at the plant and water at one location in the distribution was sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,000 tests were performed in 6 sample events from the Walpole Island Water Treatment Plant.

No known health related guidelines were exceeded.

The Walpole Island Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
WAWA WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The community of Wawa is located on the north shore of Lake Superior in the District of Algoma. The Wawa Water Treatment Plant is a pumping station which partially treats water from Lake Wawa. The only treatment provided is fluoridation and disinfection. The facility consists of a storage reservoir with three highlift pumps. Chlorine is injected into the raw well for disinfection and treated water is pumped to the water tower and the distribution system. The plant has a design capacity of 8.11 x1000 m^3/day. The Wawa Water Treatment Plant serves a population of approximately 4,500.

Raw and treated water at the plant and two locations in the distribution was sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,654 tests were performed in 5 sample events from the Wawa Water Treatment Plant.

The Ontario Drinking Water Objective for lead(10 µg/L) was exceeded in 1 treated water sample. The MOE District Officer was notified. Inadequate flushing of the standing water from the pipes may have contributed to the elevated lead level. Subsequent samples showed the lead level to be well below the guideline.

No other health related guidelines were exceeded.

The Wawa Water Treatment Plant, for the sample years 1996 and 1997, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
WELLAND WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Welland Water Supply System, operated by the Regional Municipality of Niagara, has a conventional treatment plant which treats water from Lake Erie via the Welland Recreational Canal. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Powder activated carbon is added for taste and odour control. This plant has a rated capacity of 86.0 x 1000 m^3/day. The Welland water supply system serves a population of approximately 50,600.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 1,848 tests were performed in 5 sample events from the Welland water supply system.

No known health related guidelines were exceeded.

The Welland water supply system, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
WHITBY WATER TREATMENT PLANT
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Whitby Water Treatment Plant, operated by the Regional Municipality of Durham, is a direct filtration plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature rises above 12°C. This plant has a design capacity of 109 x 1000 m^3/day. The Whitby Water Supply System serves a population of approximately 60,000.

Raw and treated water at the plant and water at one location in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

A summary of supplementary radiological data, provided by the Ontario Ministry of Labour, Radiation Protection Laboratory, is presented in this report.

For 1996 and 1997, a total of 1,653 tests were performed in 4 sample events from the Whitby Water Treatment Plant.

No known health related guidelines were exceeded.

The Whitby Water Treatment Plant, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM
WINDSOR WATER SUPPLY SYSTEM
1996 AND 1997 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1997, the DWSP monitored 142 water treatment facilities.

The Windsor Water Treatment Plant is a conventional treatment plant which treats water from the Detroit River. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Powder activated carbon is added for taste and odour control when required. This plant has a rated capacity of 295 x 1000 m^3/day. The Windsor water Supply System serves a population of approximately 215,300.

Raw and treated water at the plant and water at three locations in the distribution system were sampled for the presence of approximately 200 bacteriological, inorganic, organic and radiological parameters.

For 1996 and 1997, a total of 2,207 tests were performed in 7 sample events from the Windsor Water Treatment Plant.

No known health related guidelines were exceeded.

The Windsor water supply system, for the sample years 1996 and 1997, produced good quality water and this was maintained in the distribution system.

.....119